

Message

From: Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]
Sent: 2/5/2016 3:07:36 PM
To: Libelo, Laurence [Libelo.Laurence@epa.gov]; Washington, John [Washington.John@epa.gov]; Lindstrom, Andrew [Lindstrom.Andrew@epa.gov]; Mills, Marc [mills.marc@epa.gov]; Acheson, Carolyn [Acheson.Carolyn@epa.gov]; Lau, Chris [Lau.Christopher@epa.gov]
Subject: RE: perfluoro ether info request from ORD
Attachments: Strynar et al., 2015 ES&T.pdf; strynar et al., 2015 SI.pdf; New NCSU PFECAs for water work.pptx

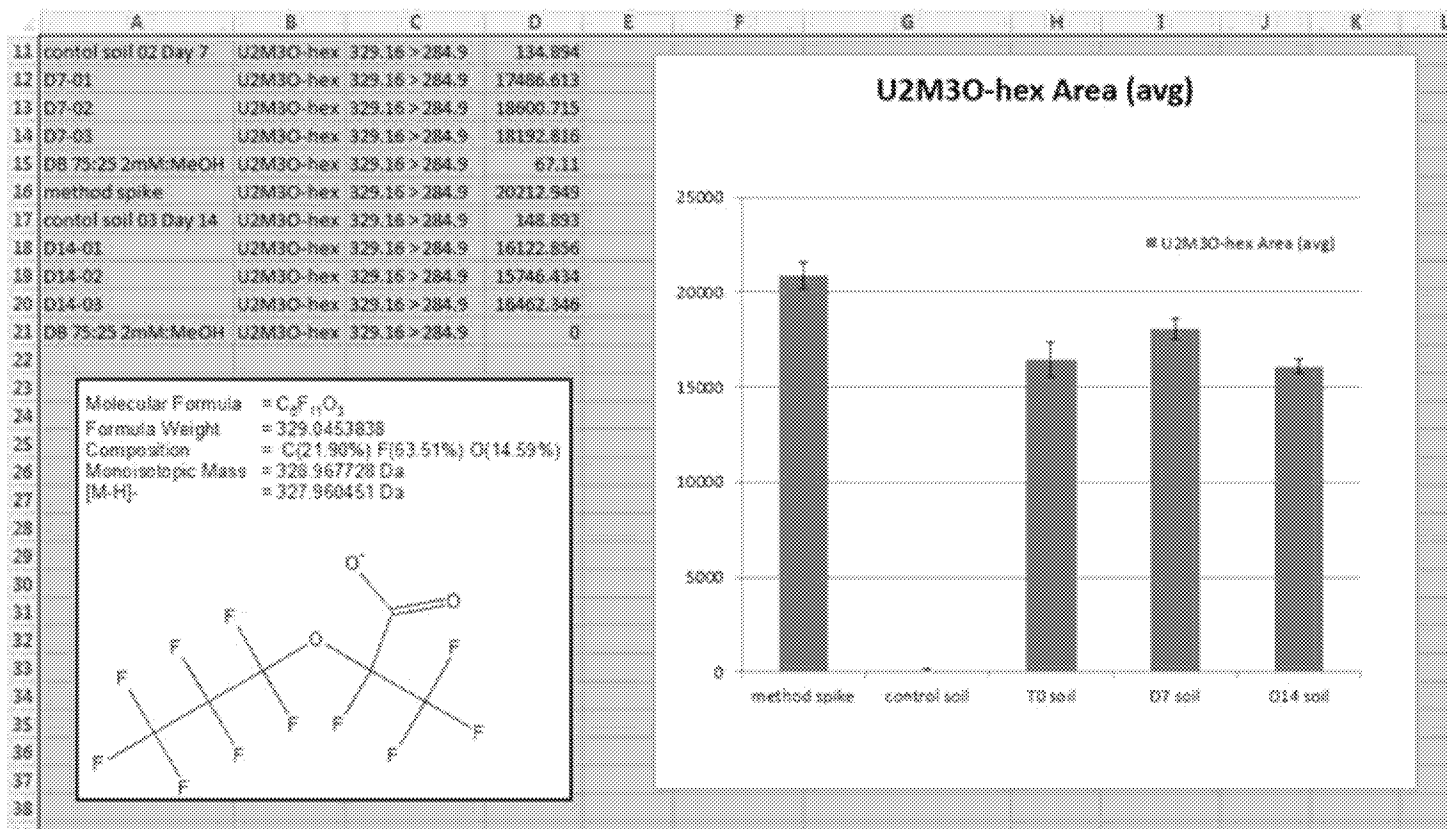
Laurence,

We recently published this paper concerning the detection of a suite of perfluoro ether compounds in surface water on the Cape Fear river in Fayetteville, NC. There were only detected in the water downstream of the Chemours (formerly DuPont) waste stream input. In addition we have sampled finished drinking water and have noted the presence of these compounds. We have yet to quantitate for concentrations.

We have an active project with Detlef Knappe (NC State) to see if these compounds can be removed by activated charcoal. Conventional drinking water plants appear not to remove them as has been seen with traditional PFCs.

Jamie Dewitt at East Carolina University has dosed rodents with GenX in an immunotoxicology study. The info was presented at a past SOT meeting. She is working on a publication I am coauthor on (unknown target date).

In addition one of the compounds (Called GenX) we were able to get as an authentic standard. I have some unpublished data associated with a quick study I performed to see if the compound is degraded (see below). I spiked into a local soil (500 ng/g moist soil) in triplicate and tracked the concentration incubated at room temperature for 14 days. This limited experiment showed no sign of degradation. We have now acquired 7 authentic standards that could be used as a test case for soil incubations if needed.



We have acquired 7 new perfluoroether compound standards and have generated LC-MS/MS methods for analysis in environmental samples. We have mainly been working with water thus far. See attached powerpoint for compounds acquired. Only one of these compounds (CAS 863090-89-5) was found in our ES&T paper. The rest are acting as surrogates for removal efficiency studies.

Mark

From: Libelo, Laurence

Sent: Friday, February 05, 2016 8:42 AM

To: Washington, John <Washington.John@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Mills, Marc <mills.marc@epa.gov>; Acheson, Carolyn <Acheson.Carolyn@epa.gov>; Lau, Chris <Lau.Christopher@epa.gov>

Subject: perfluoro ether info request from ORD

Hi Folks,

I am looking at the PFC replacement chemicals based on perfluor ethers (Adona for example) and for the perfluoro ether polymers (i.e. Nafion and similar structures with and without sulfur) and am trying to find out if anyone in ORD is working on these. Specifically I am looking for any data on the occurrence in water, soil etc and any data on the possible degradation on perfluoro ethers, polyethers and ether based telomere like polymers. I also would like to find any data on them in general – tox, biomonitoring, chemical processing.....

Do you have any data on these chemicals? Do you know of anyone working on them?

I have found about a dozen papers in the industrial chemistry literature on their degradation by hydroxyl and other radicals and Lewis acids i.e. aluminum compounds but have not been able to find any data, published or unpublished on their hydrolysis, photolysis or biodegradation under environmental conditions.

In our CBI data there are a few studies that hint at biodegradation and show some light absorption >220 nm. I suspect that there is some additional data out there and anything you send me or could direct me to would be greatly appreciated.

Thanks

Laurence

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E. Laurence Libelo, Ph.D.
Senior Environmental Engineer
Risk Assessment Division
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
OCSPP/OPPT/RAD/AB2
202-564-8553